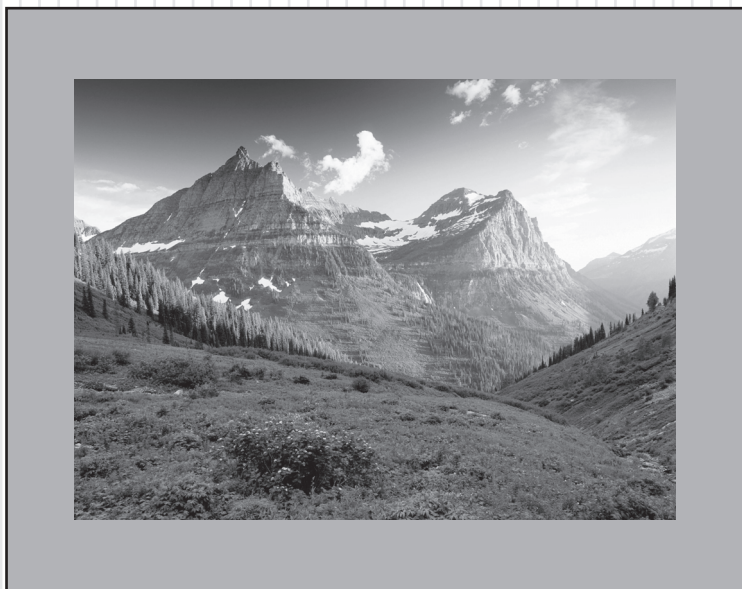


*Montana*  
*Comprehensive Assessment*  
*System (MontCAS, Phase 2)*  
*Criterion-Referenced Test (CRT)*

COMMON CONSTRUCTED-RESPONSE ITEM RELEASE  
MATHEMATICS, GRADE 5

2008



OFFICE OF PUBLIC INSTRUCTION

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# Mathematics

## Session 1 (No Calculator)

**You may NOT use a calculator during this session.**

**Write your answer in the space provided for it in your Student Response Booklet. Show all of your work.**

25. Parents of King School students will buy a new piece of playground equipment. The fourth- and fifth-grade students voted for the type of playground equipment they would like to have. The results are shown in the chart below.

**Students' Voting Results  
for Playground Equipment**

Equipment	Fourth Grade	Fifth Grade
Monkey bars	25	25
Basketball hoop	16	28
Soccer net	32	18

- On the grid in your Student Response Booklet, make a double bar graph that shows the fourth- and fifth-grade students' votes for each type of playground equipment. Be sure to label your graph, provide a title, and provide a key to show which bars are fourth-grade votes and which bars are fifth-grade votes.
- Which type of playground equipment should the parents buy? Use the data to support your reasoning.

## Scoring Guide

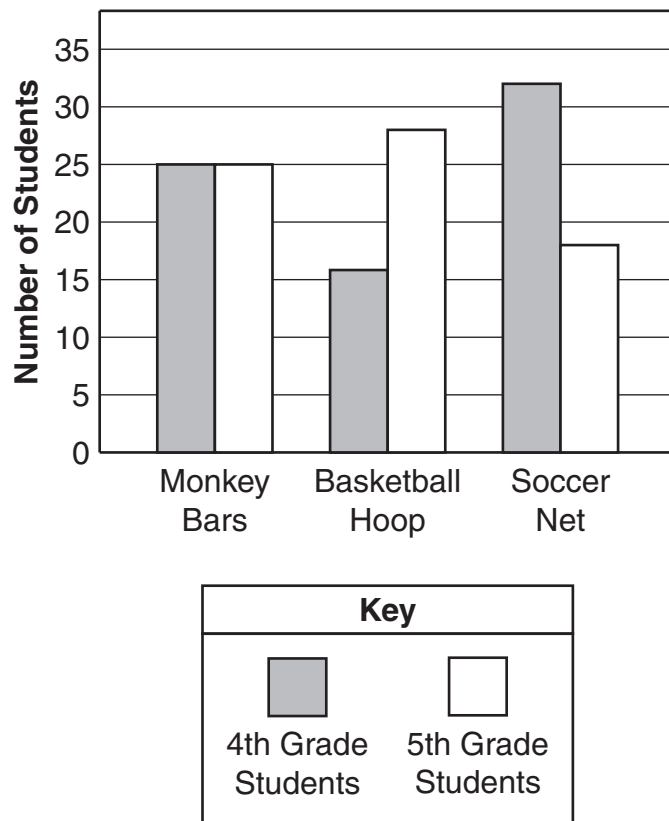
Score	Description
4	4 points
3	3 points
2	2 points
1	1 point OR Student shows minimal understanding of creating and/or interpreting a graph.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

## Scoring Notes

- Part a: 3 points      for a correct and complete double bar graph with axis labeled, title and key
- OR
- 2 points      for a bar graph with one or two minor errors, e.g., missing title, missing label, missing key, minor error in drawing a bar
- OR
- 1 point      for a complete and correct graph of some other type (e.g., line graph)
- OR
- 1 point      for a bar graph with no more than 3 minor errors (e.g., missing title, etc.)
- Part b: 1 point      for a recommendation that is clearly justified and based on correct mathematical reasoning

**Sample Response:**

Part a: **Results of Playground Equipment Vote**

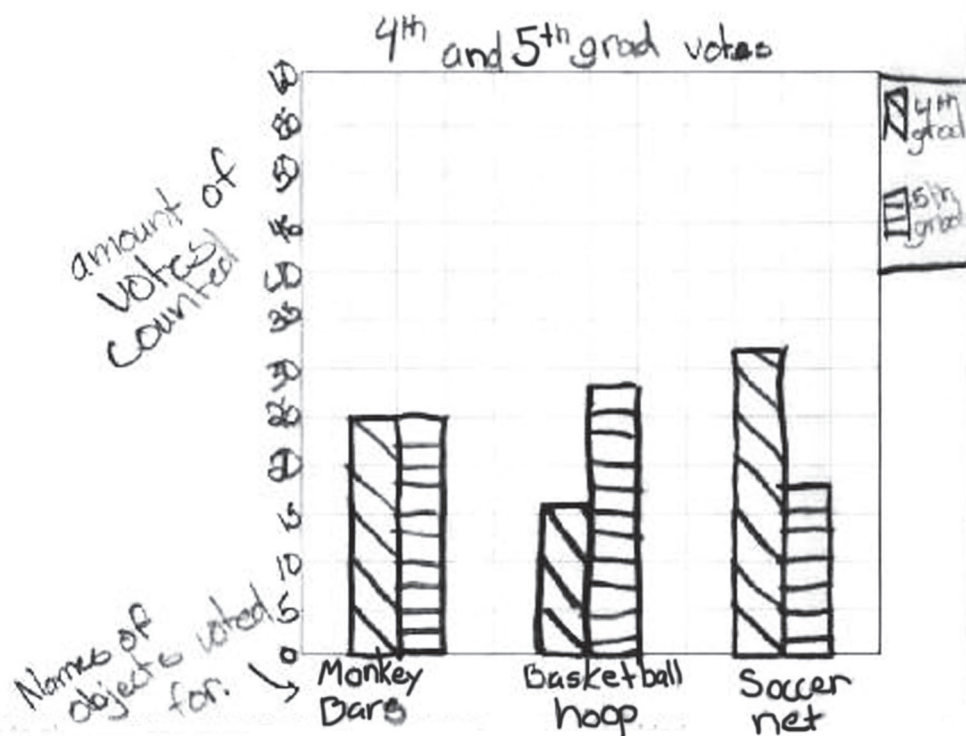


Part b: Because both grades' votes are 25 for monkey bars they should be bought. Choosing the mode is a fair choice because both grades had the same number of votes for this piece of playground equipment.

Score Point 4

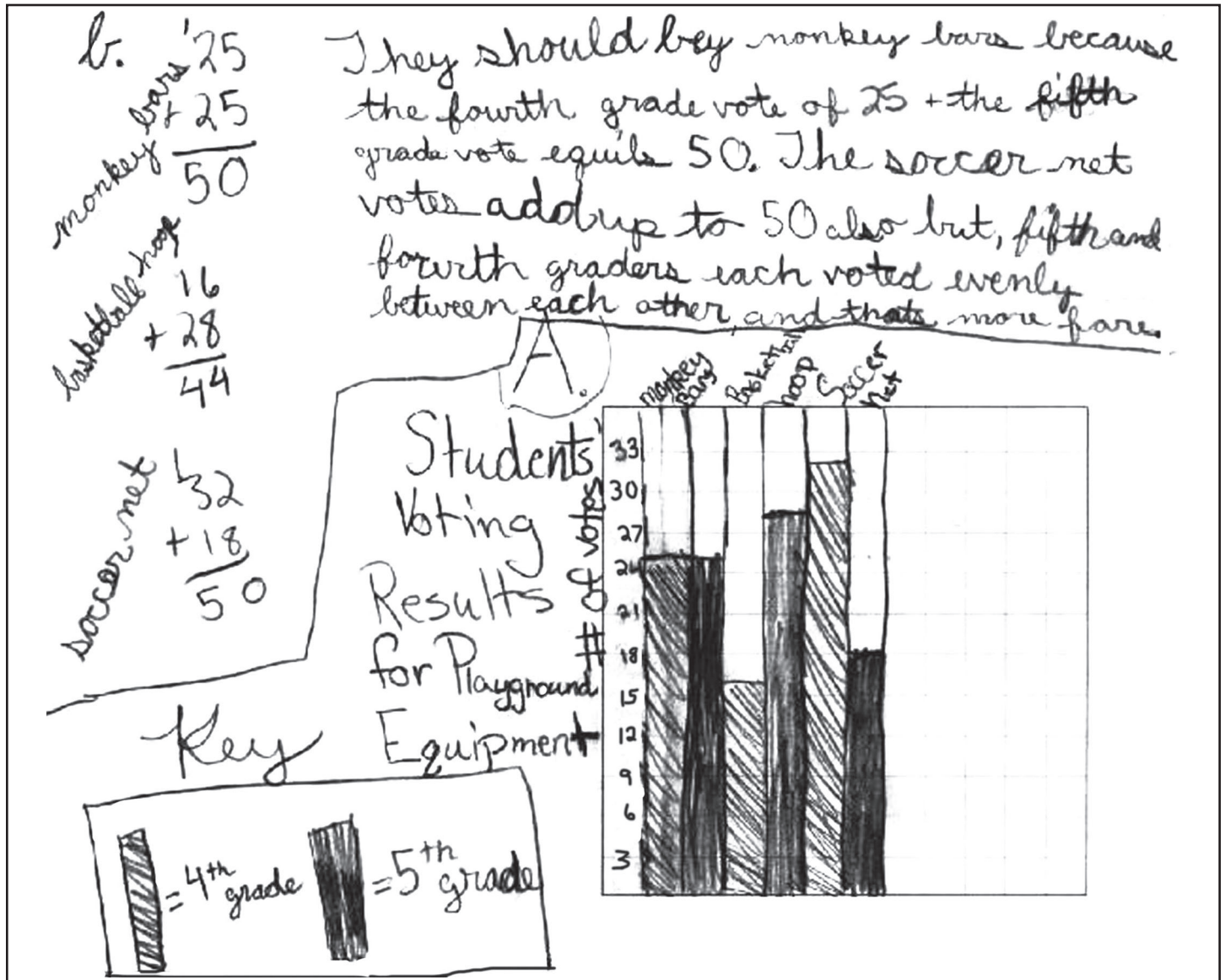
Sample 1

I think the parents should get the Monkey bars  
Because the 5<sup>th</sup> and 4<sup>th</sup> grade had the same amounts  
of votes for the Monkey bars.



Score Point 4

Sample 2



Score Point 3

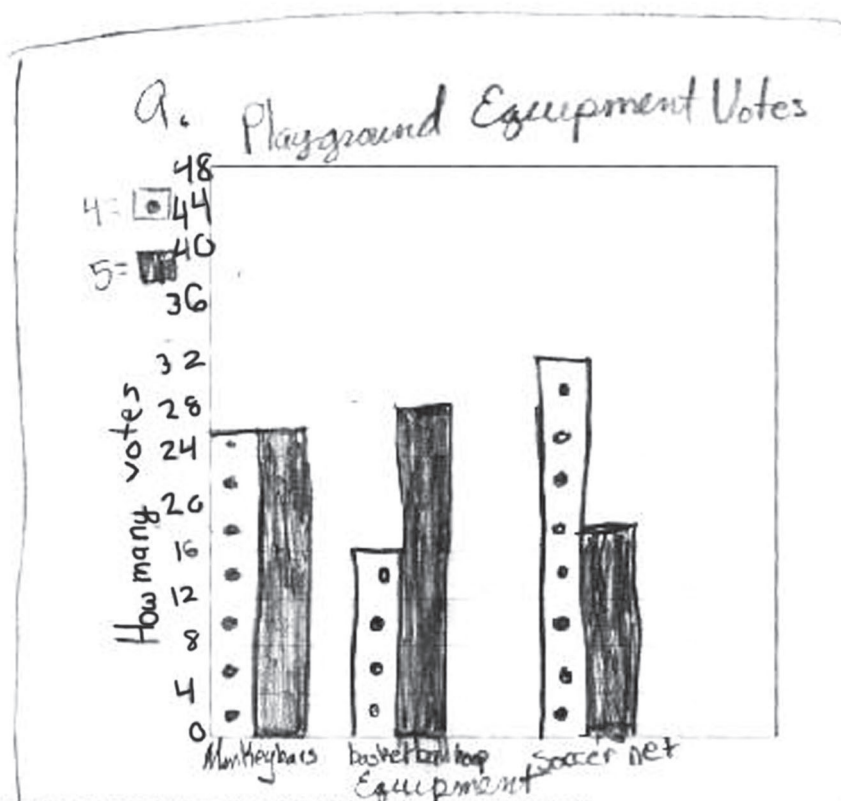
Sample 1

B.

Monkey Bars	Basketball Hoop	Soccer net
50	44	50

The monkey bars and soccer net got the same votes they should do the vote over with all the same people but they can only vote for the monkey bars or the soccer net

$$\begin{array}{r} 28 \\ \times 16 \\ \hline 44 \end{array}$$

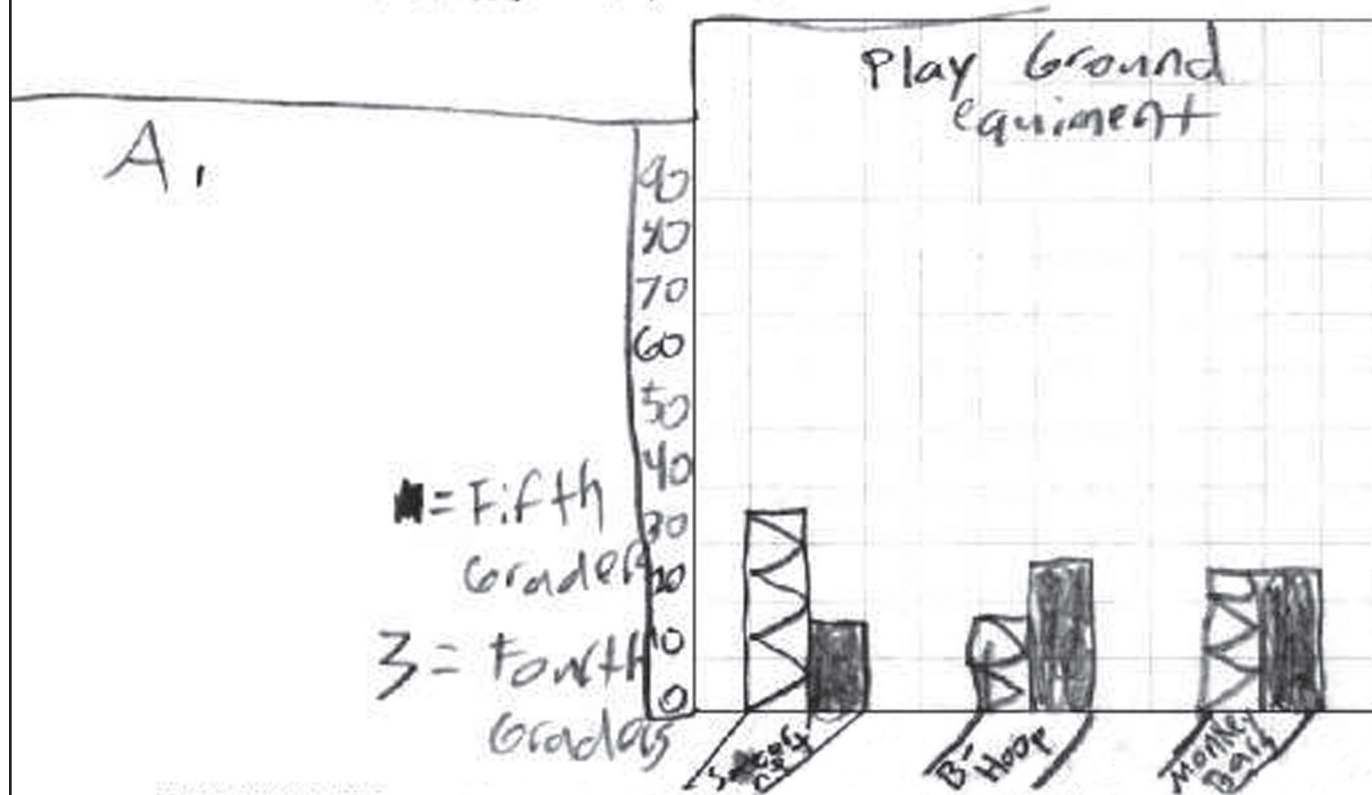




Score Point 3

Sample 2

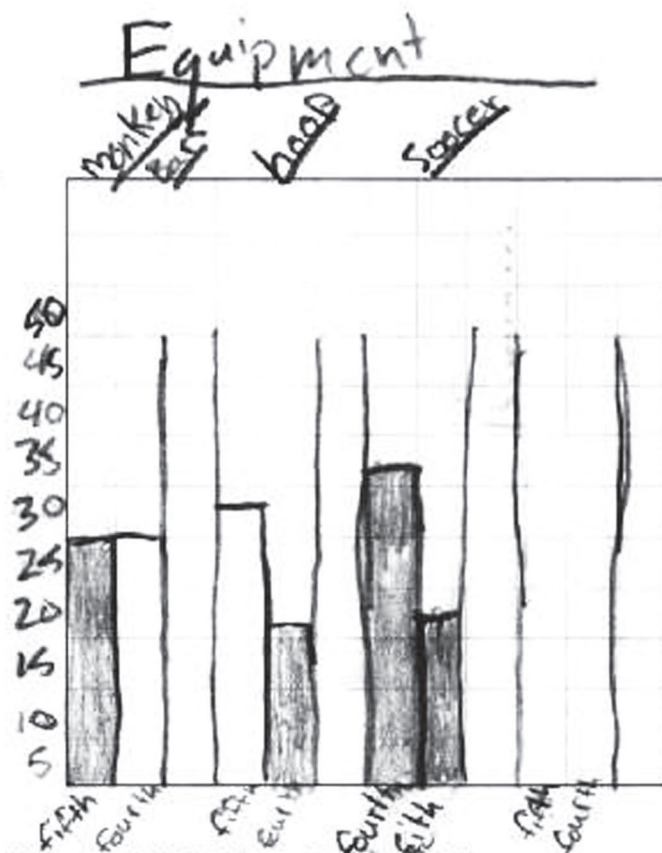
B. They should buy the Monkey Bars because both the same amount of 4<sup>th</sup> graders and 5<sup>th</sup> grades want it and it has a total of 50 votes, more than the Basketball hoop.



Score Point 2

Sample 1

b. Basketball ~~was~~ because it is safer than the monkey bars because you can fall and split your head open. it is also safer than the soccer net because when you dive you might dive into the bars and cut your head.



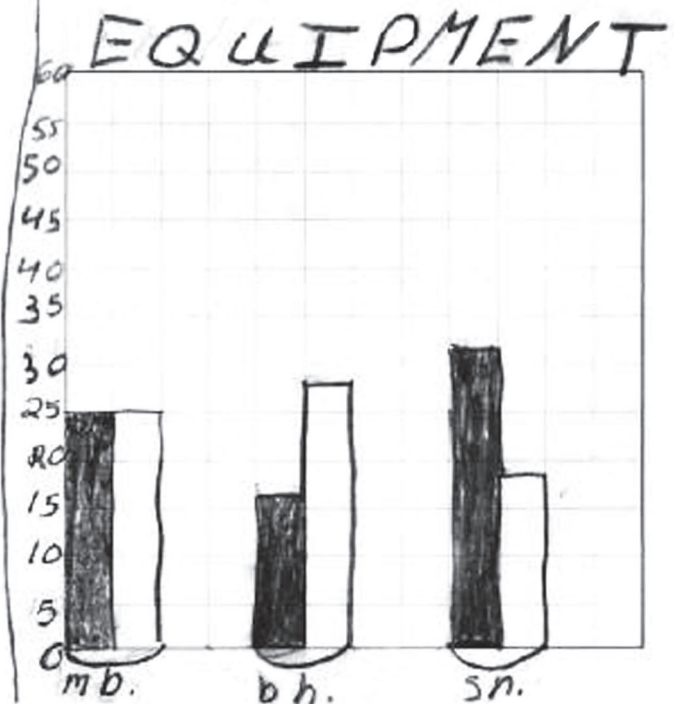
Score Point 2

Sample 2

(B.) They should be the monkey bars. (A.)

■ or □ = 5 students

key: ■ = 4<sup>th</sup>, □ = 5<sup>th</sup>



Score Point 1

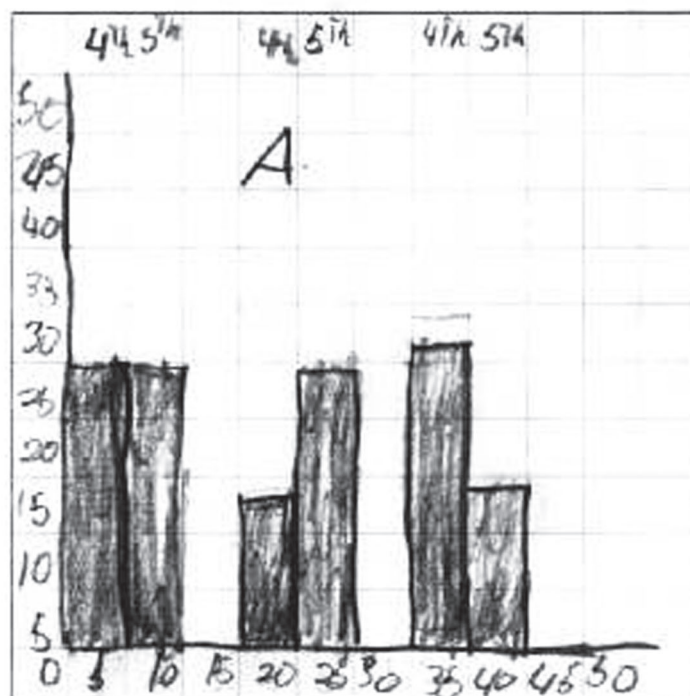
Sample 1

$$\begin{array}{r} 2 \\ 25 \\ 28 \\ +15 \\ \hline 71 \end{array}$$

$$\begin{array}{r} 1 \\ 32 \\ 25 \\ 16 \\ \hline 73 \end{array}$$

$$\begin{array}{r} 1 \\ 32 \\ 18 \\ \hline 50 \end{array}$$

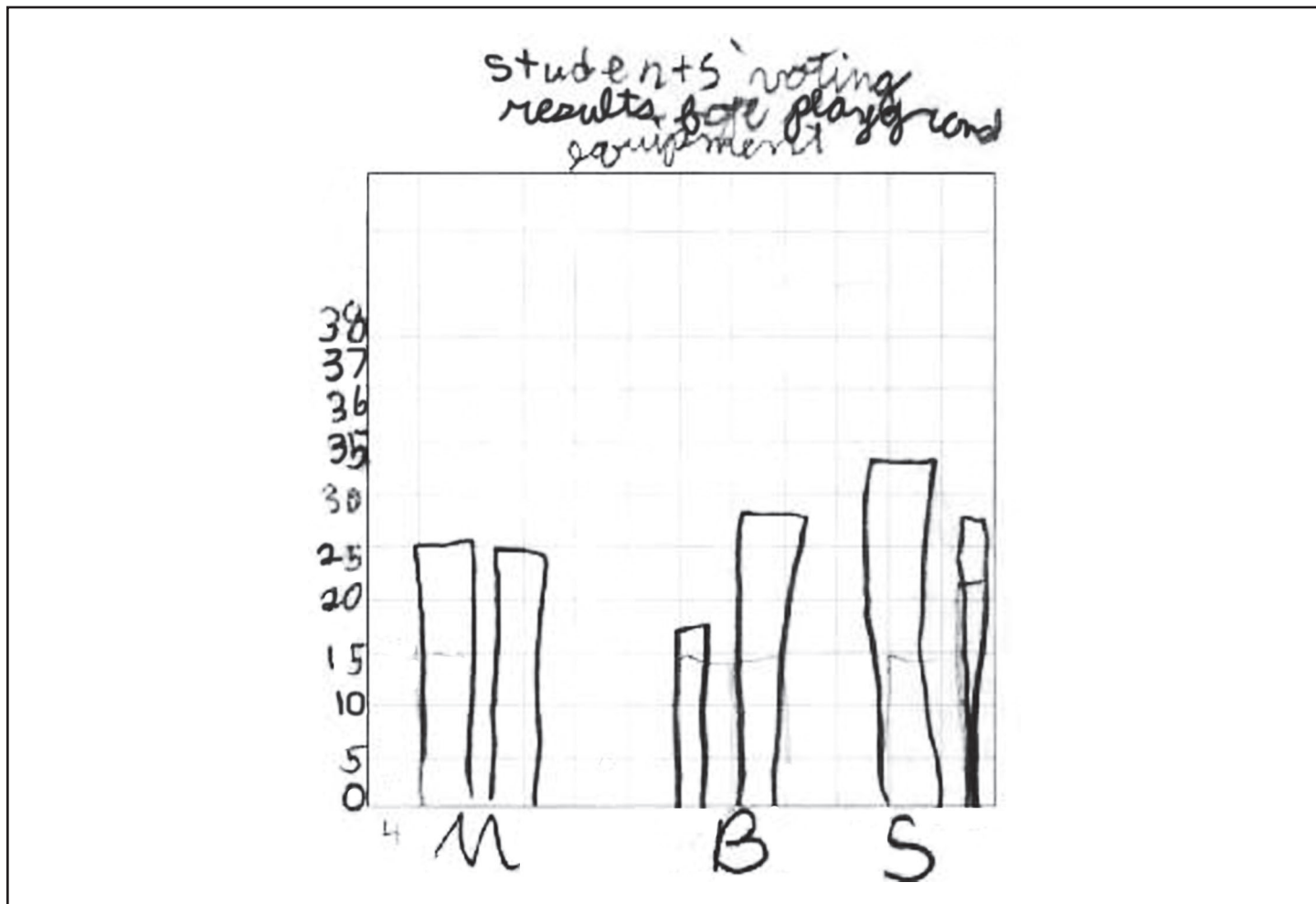
B. They should by  
monkey bars  
because it has  
The most votes.



□ = 5

Score Point 1

Sample 2



B. The should get the  
Basketball hoop and  
the monkey bars too.  
That the most  
votes

Student Voting  
A. Results for playground  
Equipment

Equipment	4 <sup>th</sup> Grade	5 <sup>th</sup> Grade
monkey <sup>bars</sup>	25	
basketball hoop	16	28
soccer <sub>net</sub>	32	18



Score Point 0

Sample 2

